SECTION 1.0

Executive Summary

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1.1 Introduction

The City and County of San Francisco (CCSF or City) is proposing to construct and operate a simple-cycle peaking power plant, the San Francisco Electric Reliability Project (SFERP), in San Francisco.

This Application for Certification (AFC) for the SFERP has been prepared by CCSF in accordance with the California Energy Commission's (CEC's) Power Plant Site Certification Regulations (August 2000). It:

- A detailed description of the proposed project
- An assessment of the Project's likely impact on the existing environment
- Measures proposed by the City to minimize project impacts

The SFERP is being pursued by the City to reduce the need for existing unreliable and highly-polluting in-City generation while maintaining the reliability of the electric system. According to the California Independent System Operator, the SFERP will enable closure of the Hunters Point Power Plant, a City objective since 1998, provided the eight transmission projects that are currently planned or under development are completed. The SFERP will also support closure of dirty units at the Potrero Power Plant (Potrero PP) as further transmission upgrades, renewable resources and improvements in energy efficiency are put into place within, and in the vicinity of, the City.

The City is committed to minimizing impacts on the community in Southeast San Francisco, where the SFERP will be located. The City recognizes that the Southeast San Francisco community has been disproportionately impacted by industrial facilities including electric power generation. The SFERP will emit substantially less NO_x than existing in-City generation. Nonetheless, the City will offset NO_x emissions from the SFERP using local offsets to the extent feasible, and will develop a PM_{10} mitigation and community benefits package to ensure that the SFERP results in a net improvement in air quality for residents of Southeast San Francisco.

The generating units that comprise the SFERP have been made available to the City as part of a global settlement between the Williams Energy Marketing and Trading Company and a large number of parties including numerous state entities and the City. The settlement resolved claims associated with the 1999-2001 energy crises and provided the City with four nature-gas-fired- LM 6000 turbines along with a budget for their development. The City has a power purchase agreement for sale of the output of the four turbines to the California Department of Water Resources at cost, provided that certain conditions are met.

The City's four unit project to improve electric reliability and provide for closure of existing in-City generation will consist of two separate sites. The SFERP at the Potrero site, for which this AFC is being submitted, consists of three of the units available to the City for

development. The City is exploring alternative locations to site the fourth unit. Once a site for the fourth unit is identified, the City will assess and comply with permitting requirements that apply to that unit in light of the facility's size, configuration, and location.

1.2 Project Overview

The SFERP will consist of a nominal 145-megawatt (MW) simple-cycle plant, using three natural gas-fired LM 6000 gas turbines and associated infrastructure. The project site is located adjacent to the San Francisco Bay in the Potrero District of San Francisco, within the existing Potrero PP site, owned and operated by Mirant Potrero, LLC. The SFERP will be located on a portion of the previously proposed Potrero Unit 7 site.

The project will include the construction of a new air insulated 115-kV switchyard on the west side of the site. A pipeline tie-in will be made to an existing PG&E natural gas load center located adjacent to the PG&E Potrero Substation. Process water for the project would be delivered via a City water pump station located on Marin Street near Cesar Chavez to a new water treatment plant located on the southern portion of the project site, adjacent to 23rd Street.

Electrical generation will be at 13.8 kilovolts, which will be stepped up with 115-kilovolt (kV) step-up transformers. The transmission line will interconnect the facility with PG&E's existing 115 kV electrical substation located adjacent to plant site on its west boundary. A new overhead transmission line will tie the adjacent PG&E substation to the plant switchyard.

Natural gas for the facility will be delivered through a new 250-foot-long, 12-inch diameter pipeline that will connect to PG&E's San Francisco Load Center, which is located on the western portion of the PG&E Potrero Substation. This service will be connected to a booster compressor station that will be part of the SFERP facility.

The City will provide process water to the SFERP through a new water pumping station (WPS) for onsite water treatment at the facility. The WPS will be located in an existing combined sewer system structure and will include three variable frequency drive pumps (two operational and one standby). A one-mile pipeline will connect the WPS and the SFERP's onsite treatment system. The one-mile pipeline consists of two parts. The southern portion of the alignment extends north from Marin Street along Mississippi Street for about 480 feet, and then east on Cesar Chavez Street for about 1,400 feet. This portion of the line will generally use an existing collection box that terminates near the intersection of Cesar Chavez Street and Indiana Street. The northern portion of the pipeline will run about 560 feet east on Cesar Chavez Street, then 1,880 feet north on Tennessee Street and then 1,360 feet east on 23rd Street to the SFERP water treatment facility inlet structure, located on the southern boundary of the project site. The onsite treatment system will be designed to produce Title 22-quality recycled water.

Plant wastewater and reject water from the SFERP's water treatment system will be discharged into the City's combined sewer system, which routes the waste to the Southeast Water Pollution Control Plant (SEWPCP).

A general vicinity map is presented as Figure 1-1 (figures are located at the end of this section); the plant site and location of linear facilities are presented in Figure 1-2; the site plan

is presented as Figure 1-3; a site layout is presented as Figure 1-4; and an oblique simulation of the plant is presented as Figure 1-5.

1.2.1 Project Objectives

The City has identified several basic objectives, consistent with the findings and recommendations contained in its Electricity Resource Plan (ERP), for the development of a power project. These objectives are:

- Improve the City of San Francisco's electricity reliability
- Facilitate the shutdown of older, more polluting in-City generation; and
- Minimize local impacts of electrical generation.

The City of San Francisco, PG&E, and the California Independent System Operator (CAISO) have extensively studied the electrical infrastructure in the City of San Francisco. Section 3 discusses the regional electrical system in the City and why the SFERP is needed, as part of a portfolio of resources, to maintain system reliability and provide for closure of existing power plants. As that section documents, the City is committed to maximizing energy efficiency improvements, developing renewable power, encouraging clean distributed generation and supporting needed transmission additions. Nonetheless, the siting of new, clean and operationally flexible generation is also necessary to provide for the near-term closure of the Hunters Point Power Plant and to address operational needs. The SFERP will also, in th elonger term, facilitate the closure of units at the Potrero Power Plant. Section 3, Purpose and Need, explains why new generating resources are needed to achieve the City's objectives, why currently planned transmission additions are insufficient to achieve the City's goals, and how the SFERP complements City efforts to develop energy efficiency improvements, renewable resources and clean distributed generation.

1.2.2 Project Site Selection

The criteria developed to evaluate the alternative sites' suitability correspond with the reasons the proposed site was selected. These criteria include the following:

- Environmental justice considerations
- Availability of sufficient land area
- Proximity to an existing substation
- Proximity to PG&E main gas pipeline
- Consistency with the General Plan and zoning ordinances, height restrictions, and existing land uses

1.3 Facility Location

The SFERP is located on the site of the former PG&E Potrero PP (now owned by Mirant Potrero, LLC). This site consists of approximately 4.5 acres of industrial land surrounded by industrial development. The site is located in the City of San Francisco and is zoned for industrial use. Development of a power plant in this area would be consistent with the zoning ordinance. The center of the SFERP site is located at approximately 37°45'24" N. latitude and 122°23'00" W. longitude in Township 2 S., Range 5 W. This township has never been surveyed into sections because it was part of an original Spanish land grant. All the proposed SFERP

facilities will be located within either the southernmost portion of the U.S. Geological Survey (USGS) San Francisco North or the northernmost portion of the San Francisco South 7.5' (1:24,000-scale) standard topographic maps. The site is located at Block 4175, Lot 6.

The site is adjacent to PG&E's 115-kV Potrero Substation. The existing substation has sufficient transmission capacity to serve a new 145-MW plant. Natural gas would be supplied to the new power plant from the PG&E main located at the corner of Illinois and 23rd streets. Additional natural gas compressors would be necessary to serve the new plant. Water supply for the proposed plant would be obtained from the City's combined sewer system via a pumping station, a pipeline, and an onsite primary, secondary, and tertiary treatment system that will produce Title 22-quality recycled water. Wastewater from the plant would be returned to the City's combined sewer system.

The plant would be located in an industrial area of San Francisco and would be screened by several tall industrial structures. The nearest residential uses to the project, which are potentially sensitive noise receptors, are located approximately 600 feet from the project.

Block and lot numbers and the names of the landowners within 1,000 feet of the site and within 500 feet of the linear corridors are included in Appendix 1A.

1.4 Project Schedule

Construction of the generating facility, from demolition, if applicable, site preparation and grading to commercial operation, is expected to take approximately 12 to14 months. Major milestones are listed in Table 1-1.

TABLE 1-1
Project Schedule Major Milestones

Activity	Date
Begin /Demolition	2nd Quarter 2005
Startup and Test	2nd Quarter 2006
Commercial Operation	2nd Quarter 2006

Normal construction will be scheduled between 7 a.m. and 8 p.m., Monday through Friday. During the startup phase of the project, some activities will continue 24 hours per day, 7 days per week.

1.5 Project Ownership

The power plant and transmission lines will be owned and operated by CCSF. Consistent with PG&E practice and California Public Utilities Commission (CPUC) law and regulation, the natural gas pipeline will be owned by PG&E. The potable water and process water lines will be owned by CCSF.

The initial capital cost of the SFERP is estimated to be $140 million. The estimated value of materials and supplies that will be purchased locally (within San Francisco) during demolition/construction is between $2 and $3 million.

1.6 Project Alternatives

The CEC conducts its review of alternatives to satisfy the Warren-Alquist Act and the California Environmental Quality Act (CEQA). Appendix B(f)(1) of the CEC Guidelines requires a discussion of the range of reasonable alternatives to the project, or to the location of the Project, which would feasibly attain most of the basic objectives of the Project but would avoid or substantially lessen any of the significant effects of the Project. To enable this review, the criteria and objectives that led to the selection of the site and design features of the proposed SFERP are provided, along with a detailed discussion of the range of alternatives considered (see Section 9.0).

A "No Project" alternative was considered and rejected as inconsistent with the City's objectives, including but not limited to an increase in the electrical system's reliability to San Francisco Public Utilities Commission's (SFPUC's) customers and to facilitate the shutdown of older, higher polluting in-City generation.

1.7 Environmental Justice

The City recognizes that Southeast San Francisco is a community of color with relatively high rates of serious respiratory diseases and that the Southeast San Francisco has been disproportionately impacted by industrial facilities. To address these concerns, Ordinance 124-01 sets forth requirements for any new fossil-fueled power generation at Potrero in Southeast San Francisco. The SFERP supports the objectives of Ordinance 124-01 by reducing emissions of NO_x, enabling closure of Hunters Point Power Plants, and supporting eventual closure of units at the Potrero PP. In addition, the City is committed to funding a meaningful PM10 mitigation and community benefits package to mitigate the adverse impacts of the SFERP on the community. Further, the City will undertake local air quality monitoring that will provide necessary information to support additional air quality improvement sin Southeast San Francisco.

1.8 Environmental Considerations

Sixteen different types of possible environmental impacts from the proposed project were investigated. Detailed descriptions and analyses of these issues are presented in Subsections 8.1 through 8.16 of this AFC. This section briefly summarizes the potential effects typically of greater interest to CEC staff and the public.

1.8.1 Air Quality

The site is located in an area designated as nonattainment for State and federal ozone air quality standards, and for State fine particulate matter (PM_{10}) standards. An assessment of the impact to air quality was performed using detailed air dispersion modeling. The air impacts from the Project will be mitigated by the use of state-of-the-art combustion turbine emission

control technology. The City has issued a request for proposals to emission reduction credit (ERC) holders to obtain sufficient ERCs to meet the offset requirements for this project. The City has committed to make reasonable efforts to obtain offsets locally. ERCs will be obtained to offset increases in emissions of precursor organic compounds (PVOCs) and NO_x (both precursors of ozone). In addition, the City intends to develop a PM_{10} mitigation and a community benefits plan. See Subsection 8.1 for a detailed analysis of air quality.

1.8.2 Water Resources

Water for the SFERP for process and cooling water, equipment wash water and the dual plumbing system (toilets) would be recycled water to be produced on the site at a new water treatment system included as part of the project design. The City will provide combined sewer system water from a water pumping station to be constructed on Marin Street near Cesar Chavez, about one mile from the site. A new pipeline will be installed along Marin, Mississippi, Cesar Chavez, Tennessee, and 23rd streets to convey the process water to a new water treatment system located on the southern portion of the project site, adjacent to 23rd Street.

The onsite treatment system will be designed to produce Title 22-quality recycled water, with the treatment system providing primary, secondary, and tertiary treatment plus disinfection either by ultraviolet system or chlorination. Potable water will be provided for fire protection, domestic uses, and emergency backup for cooling and process needs.

1.8.3 Visual Resources

The proposed SFERP features would change the existing landscape from a site that is paved and includes two very large and one smaller red brick buildings, one metal building, and tall weedy vegetation to a paved site with four buildings (one brick, and three that would be a combination of wood and metal), electrical and gas metering equipment, and an onsite road. Three 85-foot-tall stacks would be the tallest project features at the site. They would visually appear to be considerably shorter than the Potrero Unit 3 power plant building and one-third the height of Potrero Unit 3's stack.[1] The exteriors of all project elements would be treated with a neutral gray finish that would optimize visual integration with the surrounding environment. The exception is the one existing onsite brick building that would be retained and rehabilitated, and would continue to exhibit the red brick texture. With project implementation, much more of the site would be occupied with equipment than is currently the case, and the site, when viewed from adjacent parcels, would appear more orderly and maintained than it does now.

Although the proposed power plant is a peaking unit, it could be operated 24 hours per day, 7 days per week for periods of time. Its operation would require onsite nighttime lighting for safety and security. To reduce offsite lighting impacts, lighting at the facility would be restricted to areas required for safety, security, and operation. Exterior lights would be hooded, and lights would be directed onsite so that significant light or glare would be minimized. Low-pressure sodium lamps and fixtures of a non-glare type would be specified. For areas where lighting is not required for normal operation, safety, or security, switched

[1] The top of the existing Potrero stack is at elevation 303 feet. The tops of the three proposed stacks would be at approximately elevation 111 feet (85-foot-tall stacks constructed on land that is approximately elevation 26 feet msl).

lighting circuits would be provided, thus allowing these areas to remain dark at most times, minimizing the amount of lighting potentially visible offsite.

1.8.4 Noise

While the proposed SFERP will produce noticeable noise, the noise levels will be in compliance with San Francisco's Noise Ordinance requirements for industrial properties. Noise will also be produced at the site during the construction phase of the project. The construction noise may be audible at the nearest residences but is not anticipated to exceed current exposure levels and the noisiest construction activities will be confined to the daytime hours.

1.9 Key Benefits

1.9.1 System and Reliability

SFERP will enable closure of the Hunters Point Power PP in the near term, provided that eight transmission projects that are currently planned or under development are placed in service. In additions, renewable resources and energy efficiency improvements are put into place. Replacement of existing in-City generation with the SFERP will maintain and enhance reliability and environmental quality. The SFERP complements the City's efforts to promote energy efficiency, renewable resources, and clean distributed generation.

1.9.2 Environmental

SFERP will employ advanced, high-efficiency combustion turbine technology and selective catalytic reduction (SCR) to minimize emissions from the facility. Using natural gas for fuel, SFERP will be among the cleanest facilities of comparable size in the nation. Project NO_x emissions will be will be as much as 85 percent lower than those for existing older peaking facilities in the City. The City will obtain local emission offsets to compensate for the air emissions. The City will develop and implement PM_{10} mitigation and a community benefits package.

SFERP will also minimize freshwater use. Recycled water will be used for plant cooling and process water needs. This will allow for the commercial use of a wastewater stream and will have a net positive impact on water resources by reducing the amount of wastewater discharged to the San Francisco Bay.

1.9.2 Employment

Construction of the SFERP will eliminate the need for costly upgrades to allow Hunters Point Unit 4 to operate in the longer term, particularly the costs of installing new emissions control equipment. In addition, the SFERP will provide for local control over, and accountability with regards to, a strategically located new resource.

The workforce on the project during construction will peak at approximately 258 people, including construction craft persons and supervisory, support, and construction management personnel. In addition, it would provide approximately 11 full-time, living-wage jobs throughout the life of the plant.

1.9.3 Energy Efficiency

SFERP will be an efficient, environmentally responsible source of economic and reliable peaking energy to serve the growing energy demands of the City. SFERP will help ensure reliable, clean, low-cost electricity in the future.

1.10 Persons Who Prepared the AFC

Persons with primary responsibility for the preparation of each section of this AFC are listed in Appendix 1B.

1.11 Permitting Requirements

Each section provides a list of applicable federal, state, and local permits that would be required by each jurisdiction for the project.

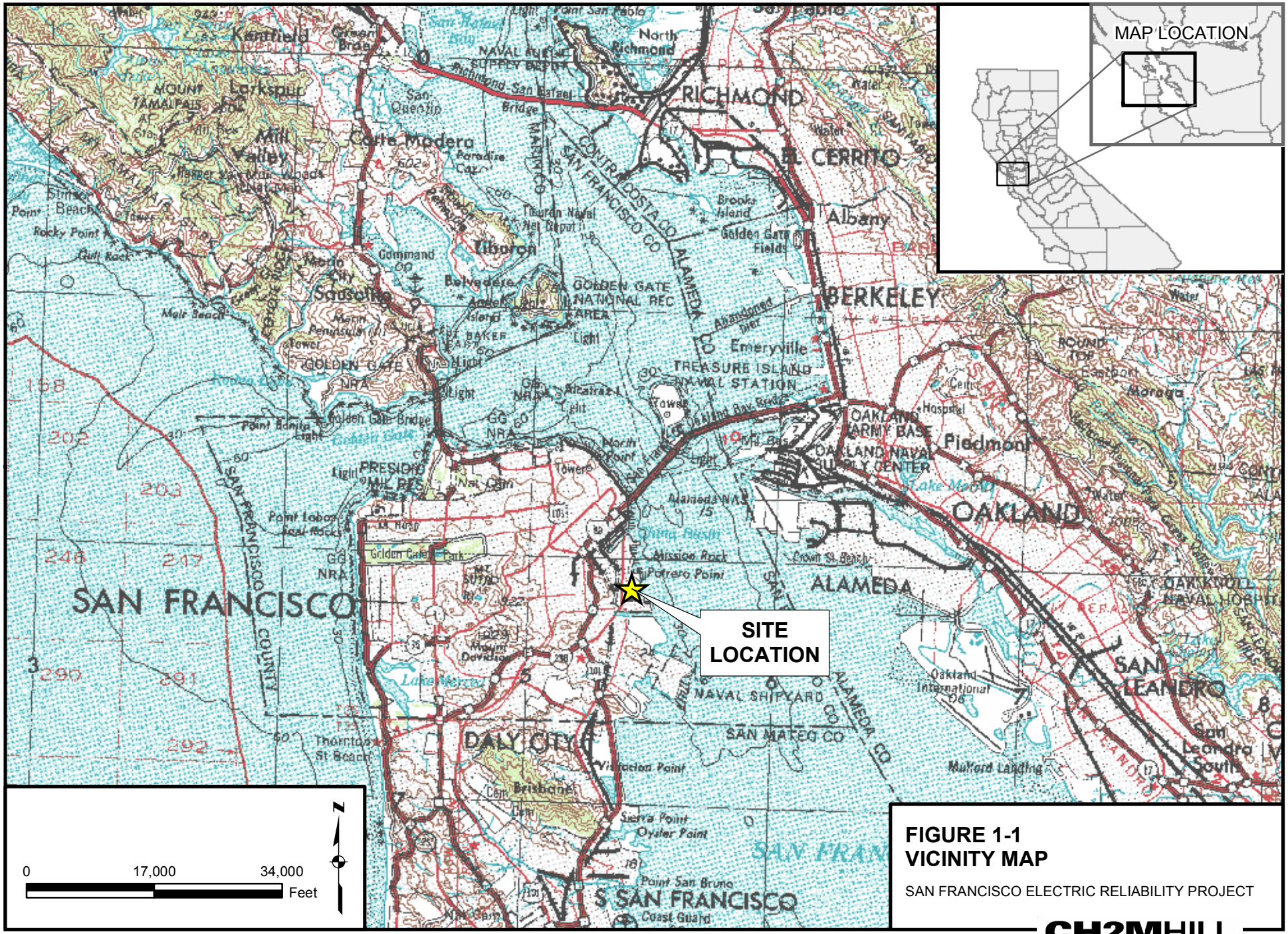

FIGURE 1-1
VICINITY MAP

SAN FRANCISCO ELECTRIC RELIABILITY PROJECT

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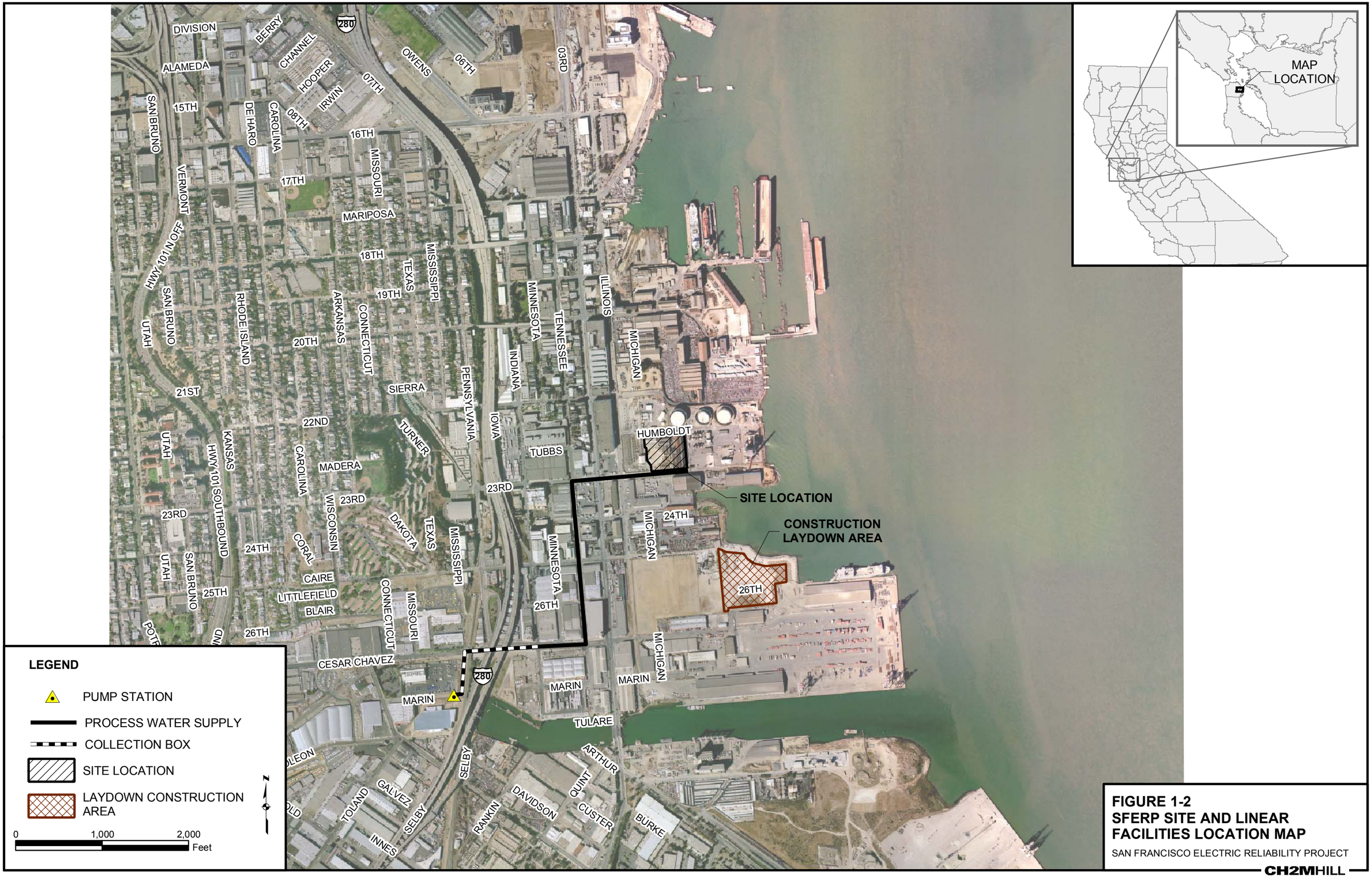

FIGURE 1-2
SFERP SITE AND LINEAR FACILITIES LOCATION MAP

SAN FRANCISCO ELECTRIC RELIABILITY PROJECT

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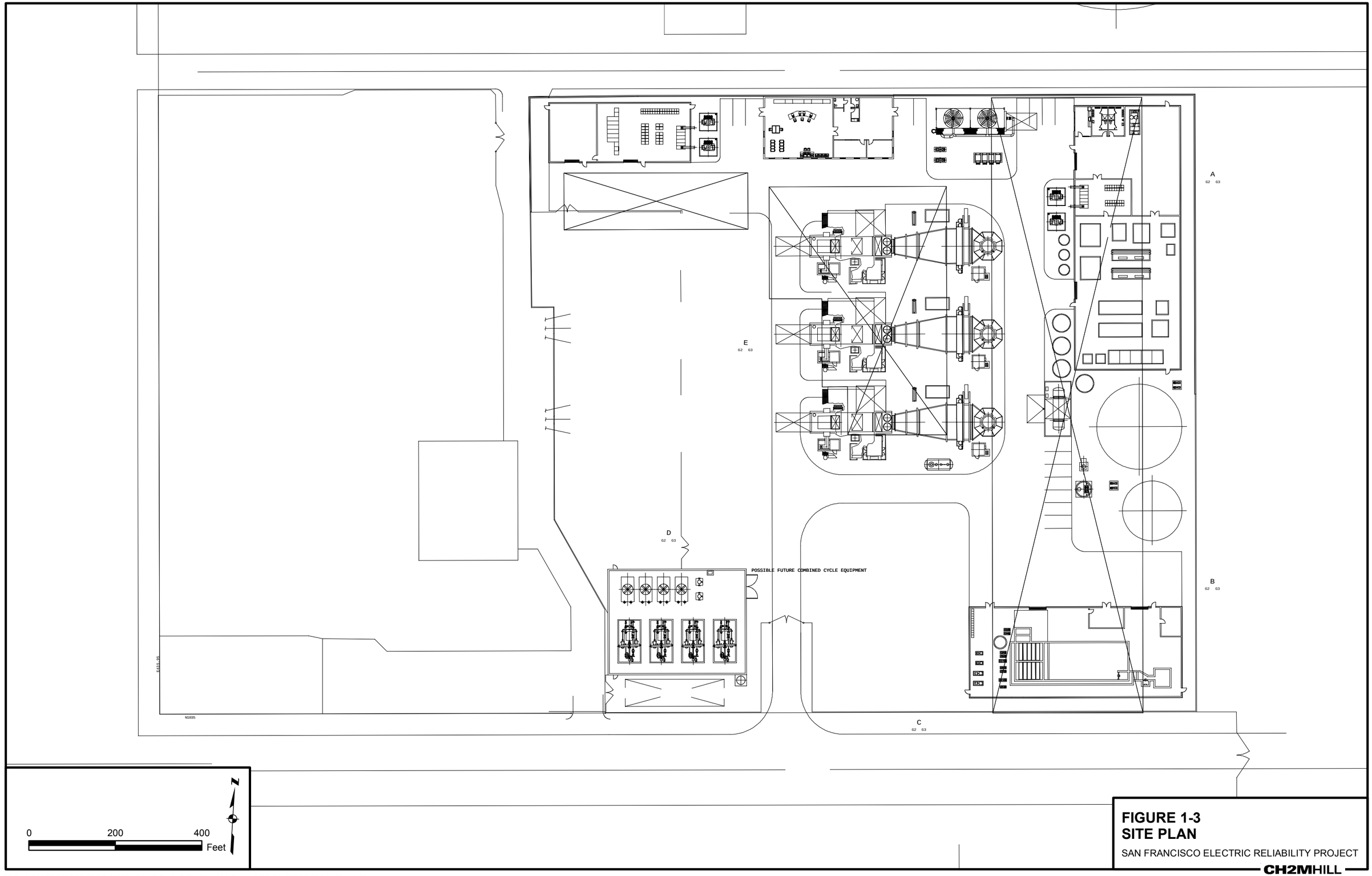

FIGURE 1-3
SITE PLAN
SAN FRANCISCO ELECTRIC RELIABILITY PROJECT

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Bob Aldrich
Webmaster
California Energy Commission

FIGURE 1-5
OBLIQUE VIEW OF PROJECT
SAN FRANCISCO ELECTRIC RELIABILITY PROJECT

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